

What is claimed is:

1. A heating unit, comprising:

a reflector plate made of an opaque quartz; and

5 a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube.

2. The heating unit of claim 1, wherein the quartz tube
10 is bent.

3. The heating unit of claim 1, wherein the quartz tube is divided and welded to a plurality of zones on the surface of the reflector plate.

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4. A mounting table, comprising:

a heating unit including a reflector plate made of an opaque quartz, and a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat
20 when a current is applied thereto is inserted in the quartz tube; and

a mounting table cover member installed to cover the whole quartz tube of the heating unit, a target object being mounted thereon, wherein the mounting table cover member is
25 made of a light absorbing material.

5. The mounting table of claim 4, wherein the mounting table cover member is made of SiC.

6. A heat treatment apparatus, comprising:

5 a mounting table including a heating unit having a reflector plate made of an opaque quartz, and a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube; and a mounting table cover member installed to cover the whole quartz tube of the heating unit, a target object being mounted thereon, wherein the mounting table cover member is made of a light absorbing material;

15 a processing chamber accommodating therein the mounting table;

a gas supply unit for supplying a gas in the processing chamber; and

a vacuum pumping system for evacuating the inside of the processing chamber.

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7. A heat treatment apparatus, comprising:

a mounting table on which a target object is mounted;

a processing chamber accommodating therein the mounting table;

25 a gas supply unit for supplying a gas in the processing chamber;

a vacuum pumping system for evacuating the processing chamber; and

a heating unit installed in the processing chamber to face the mounting table, the heating unit including:

5 a reflector plate made of an opaque quartz, and

a quartz tube welded to a surface of the reflector plate, wherein a carbon wire which generates heat when a current is applied thereto is inserted in the quartz tube.

10 8. The heat treatment apparatus of claim 7, further comprising an additional inner vessel installed to cover an upper side of the mounting table.

9. A heat treatment apparatus, comprising:

15 a mounting table on which a target object is mounted;

a processing chamber accommodating therein the mounting table;

a gas supply unit for supplying a gas in the processing chamber;

20 a vacuum pumping system for evacuating the inside of the processing chamber;

a target object heating unit for heating the target object;

an inner vessel installed in the processing chamber;

25 a heating unit, installed between the inner vessel and an inner wall of the processing chamber, for heating the

inner vessel,

wherein the inner vessel is made of a light absorbing material, and

the heating unit includes a reflector plate made of an opaque quartz, and a quartz tube welded to a surface of the reflector plate, a carbon wire which generates heat when a current is applied thereto being inserted in the quartz tube.

10. The heat treatment apparatus of claim 9, wherein the inner vessel is made of SiC.

11. The heat treatment apparatus of claim 9 or 10, wherein the target object heating unit is integrally embedded in the mounting table.